

**Institute of Chemical Physics NAS RA
Technion – Israel Institute of Technology
Yerevan State University**

**First Armenian-Israeli Workshop
on Self-Propagating High-Temperature Synthesis
(AIW SHS-2005)**

**Առաջին հայ-իսրայելական սեմինար
“Բարձրջերմաստիճանային Ինքնատարածվող Սինթեզ”**



**Program
Հրավիրատուն և Ծրագիր**

*26-29 September, 2005
Yerevan, Armenia*

**26-29 սեպտեմբերի 2005
Երևան, Հայաստան**

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Sponsored by

**The Fund “Combustion Synthesis &
Materials Science” (CSMS Fund)**

Supported by

National Foundation of Science & Advanced Technologies (NFSAT)

Dear _____

You are invited to participate in the First Armenian-Israeli Workshop on Self-Propagating High-Temperature Synthesis (AIW SHS-2005), which will be held on 26-29 September, 2005 in Yerevan.

Opening ceremony will take place at 13³⁰, 26 September in the Meeting Room of National Foundation of Science & Advanced Technologies (NFSAT): 26 Azatutyan Ave., Yerevan

Contact Phone: (374-10) 28-16-10.

- For illustrations overhead and multimedia projectors are available
- Duration of oral presentations 15 minute and 5 minute for discussions

Technical Program

Monday, 26 September, 2005

Monday 10⁰⁰-13⁰⁰ *Registration*

Monday 12⁰⁰-13⁰⁰ *Welcome cocktail*

Monday 13³⁰-14⁰⁰ - *Opening ceremony*

1. S.L. Kharatyan, Chairman of the Organazing Committee
2. E.S. Gabrielyan, Vice-president of the NAS RA
3. A.H. Mantashyan, Director of the Institute of Chemical Physics NAS RA

Monday 14⁰⁰-15¹⁰ – KEY LECTURES

Chair: I. Gotman

1. I. Gotman and E.Y. Gutmanas. Synthesis of Dense *in situ* Composites via Pressure Assisted Thermal Explosion Mode of SHS: From Science to Application. (40 min.).
2. S.L. Kharatyan “On the thermal regimes and kinetic features of SHS processes”(40 min.)

Monday 16⁰⁰ – Visit to the **ICPh** and *YSU*

Tuesday, 27 September, 2005

Tuesday 10⁰⁰-11³⁰

Chair: S. Kharatyan

1. V.V. Grachev, R.V. Solovyov. Two-Dimensional Combustion Modes at Natural Counterflow Filtration of Oxidant. (30 min.).
2. Ts.S. Bilyan, Kh.V. Manukyan, A.B. Harutyunyan and S.L. Kharatyan. Combustion Peculiarities in the B-TiN System and Synthesis of BN-TiN(TiB₂) Composite Powders.
3. A.V. Linde, V.V. Grachev, D.Yu. Kovalev, I.P. Borovinskaya, A.G. Merzhanov. Effect of High Nitrogen Pressure on Combustion Synthesis of Niobium Nitride.

11³⁰-11⁴⁵ Coffee break

Tuesday 11⁴⁵-13⁰⁰

Chair: E. Gutmanas

1. A.E. Sytschev, I. Gotman, S.G. Vadchenko, A.S. Rogachev, O.K. Kamynina. Effect of Blowing Agents on SHS of Porous Ti-Based Materials.
2. H.H. Nersisyan. Combustion Synthesis of Tungsten and Molybdenum Nanopowders, SPS-consolidation and Mechanical testing.
3. S.A. Barseghyan, H. H. Simonyan, A.A. Tataryan and A.R. Torosyan. The Formation of Nanocrystalline Al due to Ball Milling of Microcrystalline Al in the Medium of Organic Solvents.

13⁰⁰-14⁰⁰ Lunch

Tuesday, 27 September, 2005

Tuesday 14⁰⁰-15¹⁵

Chair: S. Dolukhanyan

1. L. Klinger. Thermal Explosion in Inhomogeneous Systems.
2. E.G. Grigoryan, O.M. Niazyan, S.L. Kharatyan. Oxidation of Copper Sulfides under the Non-isothermal Conditions.
3. Ts.A. Adamyan, A.G. Kirakosyan, S.L. Kharatyan. Kinetics of Niobium Carbide Formation under Non-isothermal Conditions.

15¹⁵-15³⁰ Coffee break

Tuesday 15³⁰ -16⁴⁵

Chair: A. Sytshev

1. E.Y. Gutmanas, I. Gotman and I. Zlotnikov. SHS Processing of Functionally Graded Carbide Based Composites.
2. P.B. Avakyan, N.W. Martirosyan, V.G. Andreev, M.D. Nersisyan. Syntheses of Magnesioferrites in Continuous Combustion Regime.
3. A.G. Kirakosyan, Ts.A. Adamyan, S.L. Kharatyan. Kinetic Laws of Tantalum Carbide Formation under Non-isothermal Conditions.

Tuesday 17⁰⁰-18⁰⁰ – **POSTER SESSION**

ROUND-TABLE

Organizers: *S.L. Kharatyan and E.Y. Gutmanas*

“New opportunities for international collaboration”

Tuesday, 27 September, 2005

POSTER SESSION

Tuesday 17⁰⁰-18⁰⁰

1. M. García de Cortazar, I. Agote, J. Coletto, M. Gutiérrez, S.L. Kharatyan, A.R. Sargsyan. Production of Ti/TiB Master Alloy by SHS Process for Obtaining Ti/TiB Composites for the Automotive Industry.
2. S.E. Matinyan, L.S. Abovyan, S.L. Kharatyan. Combustion Laws in the Cr₂O₃-Fe₂O₃-Al(Si), Cr₂O₃-Fe₂O₃-Al-Si Model Systems and SHS of Cast Ferrochromes.
3. M. Bernshtein, D. Horvitz and I. Gotman. Combustion Synthesis of Dense Ti₅Si₃-TiC Composites from SiC-Ti Powder Blends.
4. E. Buchman, D. Horvitz and I. Gotman. Microstructure Characterization of Dense TiAl/Al₂O₃ Composites Synthesized by Reactive Forging.
5. A.A. Hambartsumyan, H.L. Khachatryan, S.L. Kharatyan. Combustion synthesis of the MoSi₂-SiC composite: Role of the activator.
6. Kh.G. Kirakosyan, Kh.V. Manukyan and S.L. Kharatyan. SHS-Metallurgy: Cast Ferromolybdenum Synthesis from Roasted Molybdenum Concentrate.
7. G. Oniashvili, G. Varshalomidze, Z. Aslamazashvili, G. Zakharov. A New SHS Method for Special Ferroalloys Production.
8. V. Martirosyan, M. Sasuntsyan, A. Shmavonyan, T. Adamyan. Ferrochrome Obtainment from Chromite Deposits by Aluminothermic Reduction.

9. V. Martirosyan, T. Adamyany, S. Shmavonyan. Reduction of Copper Concentrate by Aluminothermic Method.
10. H.E.Grigoryan, A.S. Rogachev, J.C. Gachon, P.A. Tsygankov, A.N. Nosyrev. Combustion synthesis of multilayered Ti/Al nanofoils.

Wednesday, 28 September, 2005

Wednesday 10⁰⁰-11³⁰

Chair: V. Grachev

1. S.K. Dolukhanyan. The Influence of Accelerated Electrons Beam on Formation of Hydrides with Extremal Properties. (30 min).
2. N. Frage, S. Hayun, Z. Dashevsky and M. P. Dariel. Partially Sintered B₄C-TiB₂ Preforms for the Reaction Bonding Process.
3. I.A. Studenikin, V.V. Grachev. Effect of Silicon Particles Size on Self-propagating High-temperature Synthesis of Silicon Nitride.
4. A.R. Zurnachyan, H.L. Khachatryan, S.L. Kharatyan. Synthesis of BN/B₄C Composite Powders under the Activated Combustion Mode.

11³⁰-11⁴⁵ Coffee break

Wednesday 11⁴⁵ -13⁰⁰

Chair: L. Klinger

1. M.H. Yamukyan, Kh.V. Manukyan, S.L. Kharatyan. SHS-Silicothermy: Cast Copper Obtaining from the Oxide Raw Materials.
2. V.P. Pysarsky, S.I. Cherkes, A.D. Zemlaynoy. Self-Propagation High-temperature Synthesis of ZnS Using Bi-Disperse Zinc.
3. L.H. Arakelyan, H.A. Chatilyan, S.L. Kharatyan. Interaction laws of niobium with silane in the diffusive mode.

Tuesday 13⁰⁰-13³⁰ – **Closing Ceremony**

13³⁰-14³⁰ Lunch.

15⁰⁰-16³⁰ Social Tour

18⁰⁰ - Banquet

Thursday, 29 September, 2005

Thursday 10⁰⁰ - Social Program